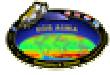




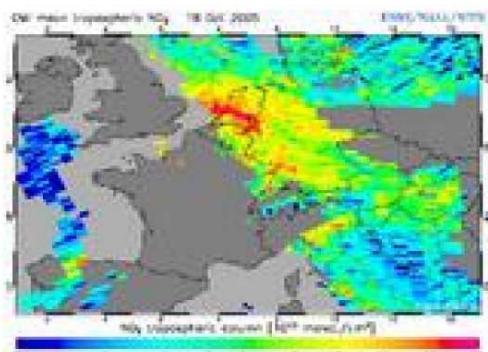
Observing the Troposphere with the Ozone Monitoring Instrument

J.P. Veefkind, H. Eskes, K.F. Boersma,
J.F. Gleason, E. Celarier, E. Bucsela,
O. Torres, G. de Leeuw, R.L. Curier
and P.F. Levelt

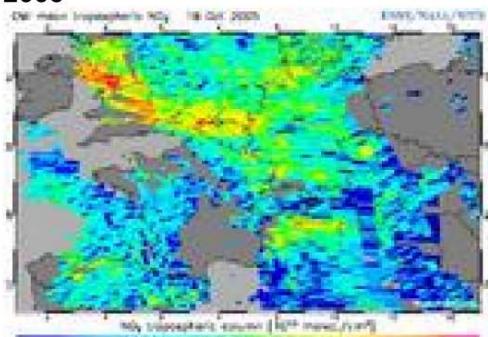


woensdag 19 oktober 2005 09:02 [verstuur](#)

OMI meet hoe dom ik ben



Luchtvervuiling dinsdag 18 oktober 2005



Luchtvervuiling zondag 16 oktober 2005

Elke dag meet satelliet OMI de luchtvervuiling boven West-Europa: ozon, fijnstof, stikstofoxiden en uv-straling

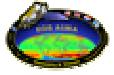
Op een site van het KNMI worden die metingen nu elke dag aanschouwelijk gemaakt.

Gisteren heb ik de gehele dag in ernstig vervuilde lucht verkeerd. Maandag ook en vandaag zal het niet minder zijn.

Op zondag gaat 't nog, is er geen rode zone boven Nederland, maar op elke andere dag zal ik - en met mij miljoenen anderen in het westen en midden des lands - in die luchtvervuiling doorbrengen.

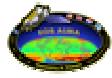
Als ik deze site dagelijks ga volgen, moet ik me elke keer realiseren hoe dom ik ben om niet te besluiten in de kop van Groningen te gaan wonen.

Source: <http://bieslog.vpro.nl>



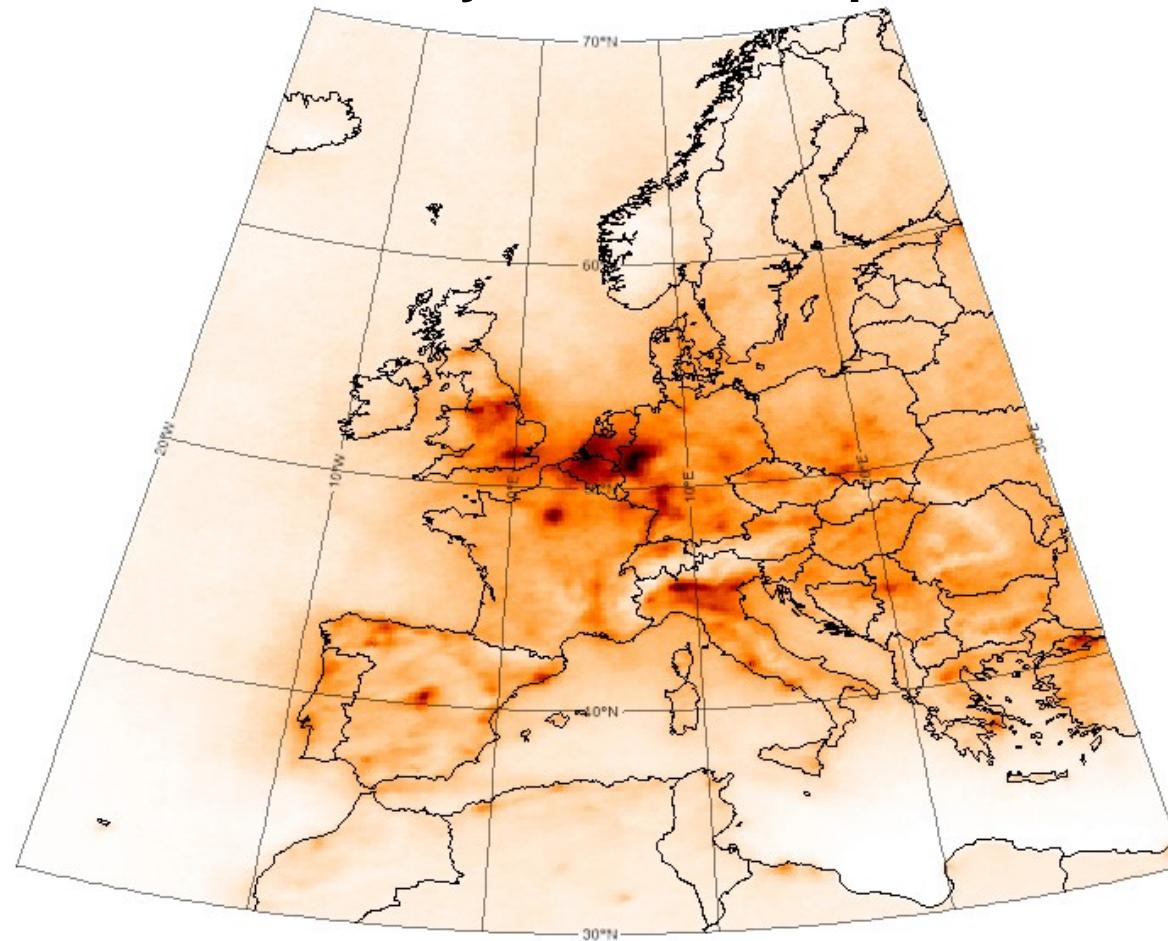
Contents

- Air Quality over Europe
- Fires in Portugal



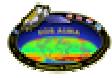
Mean Tropospheric NO₂

Period 1-May-2005 to 13-Sep-2005



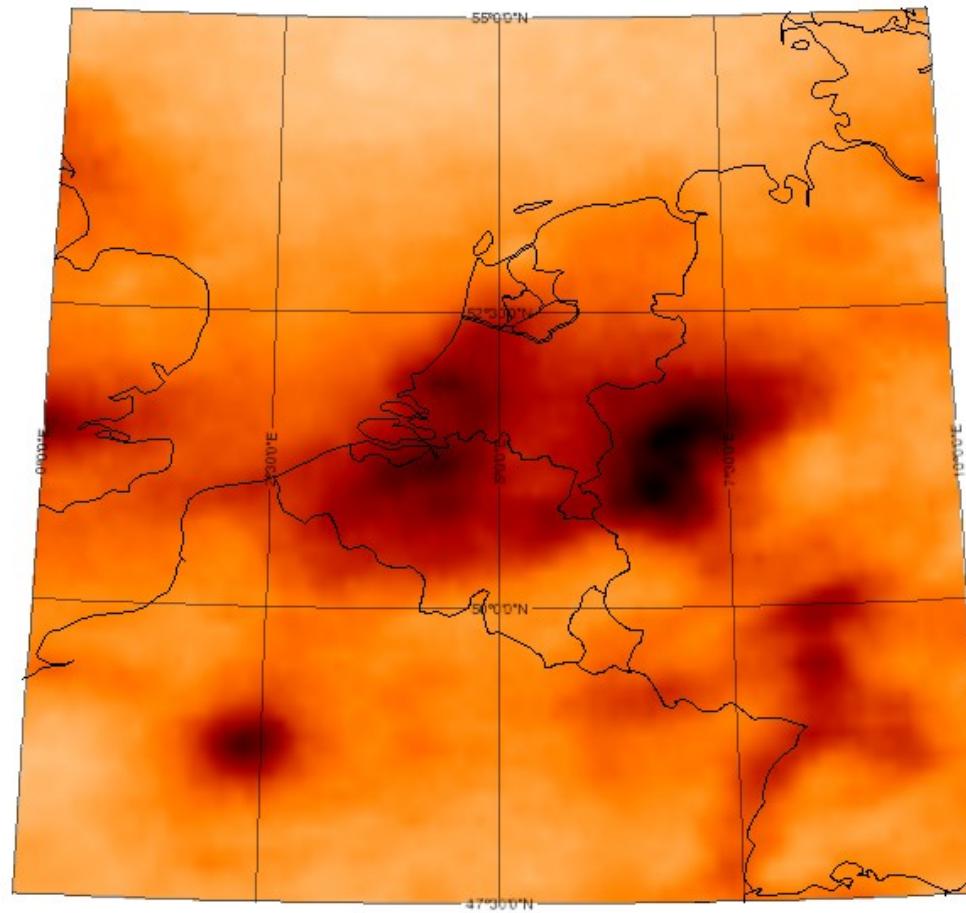
Cf < 0.3



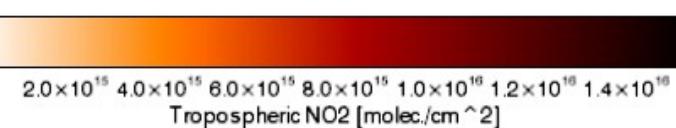


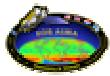
Mean Tropospheric NO₂

Period 1-May-2005 to 13-Sep-2005



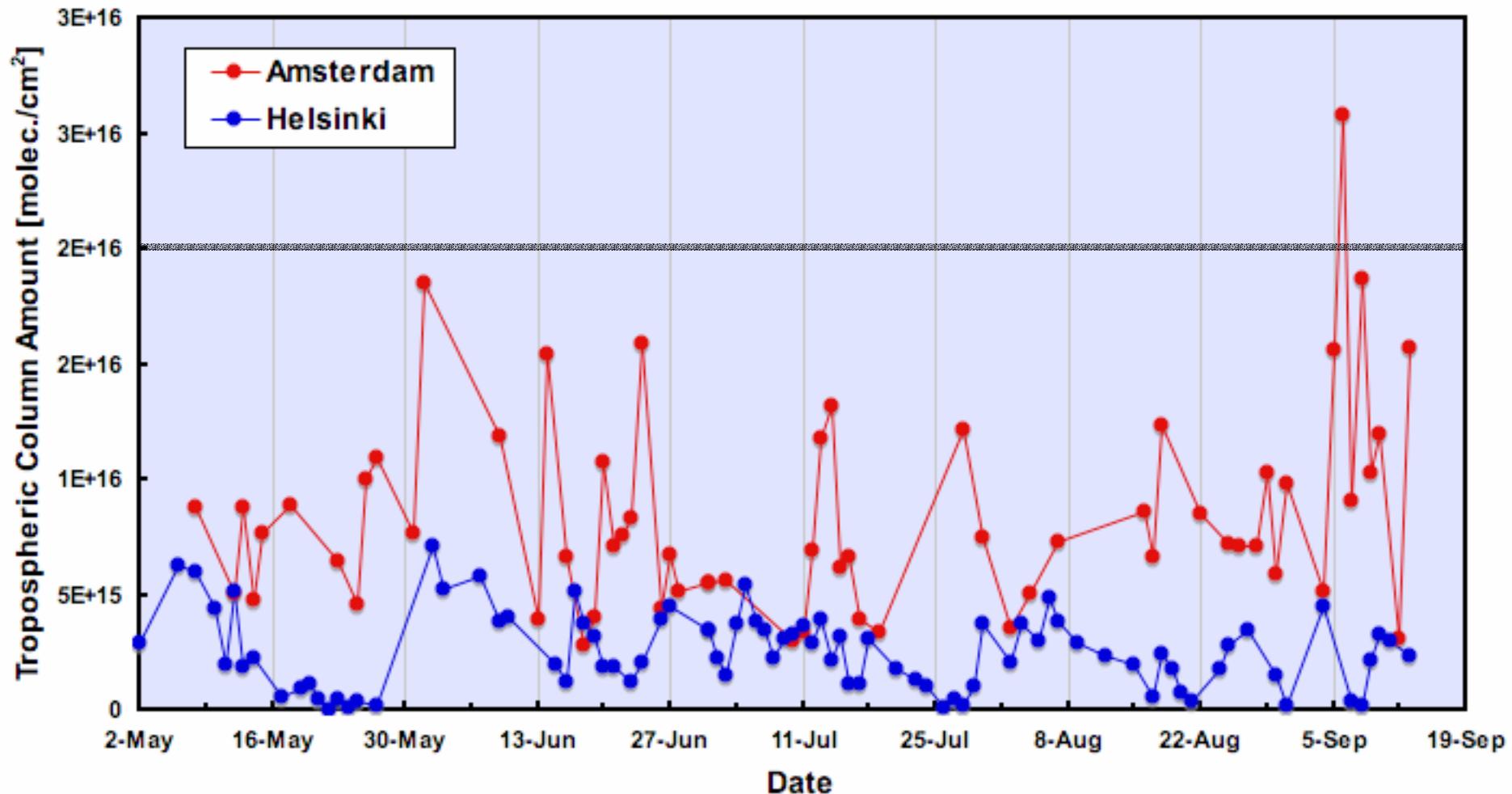
Cf < 0.3

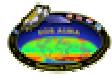




Tropospheric NO₂

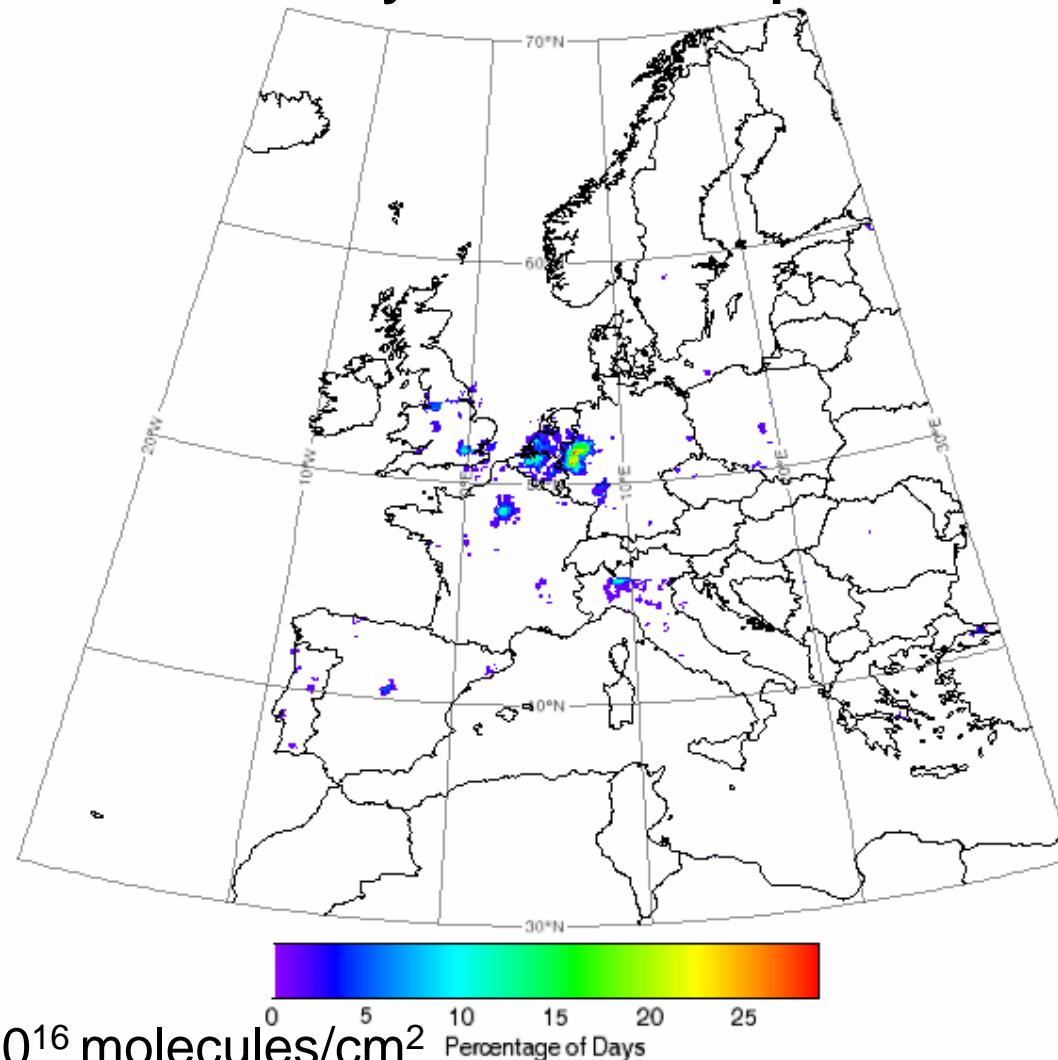
OMI NO₂ Tropospheric Column, May-Sep 2005

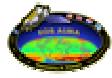




Occurrence of High NO₂ Columns

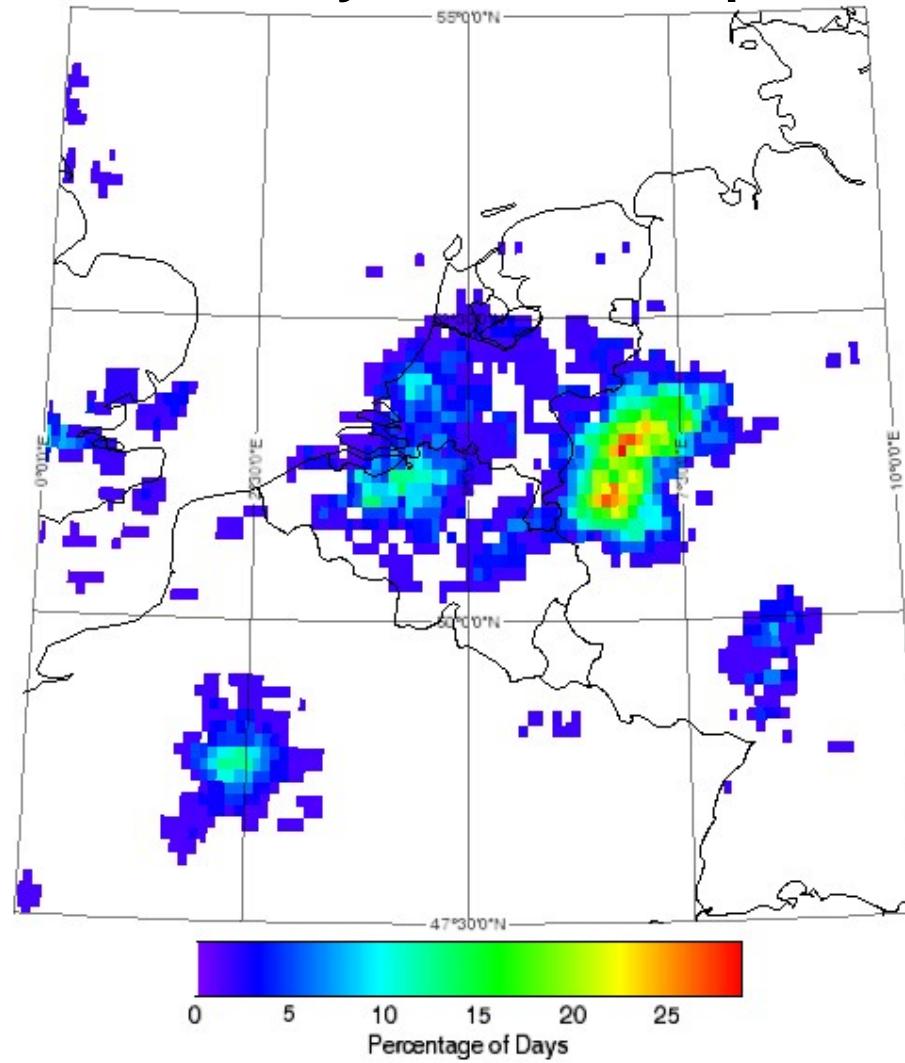
Period 1-May-2005 to 13-Sep-2005

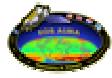




Occurrence of High NO₂ Columns

Period 1-May-2005 to 13-Sep-2005

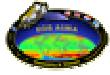




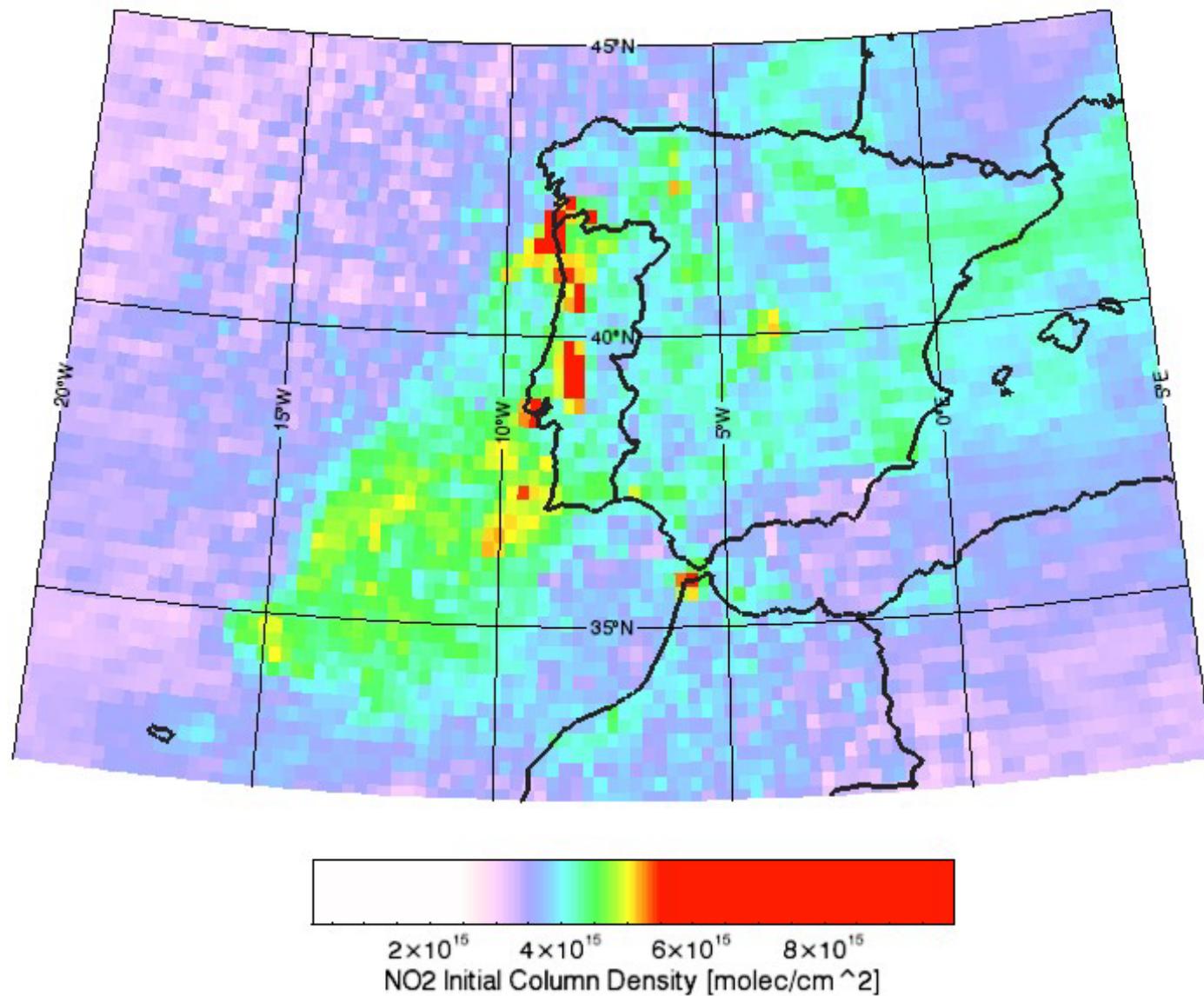
Fires in Portugal, August 2005

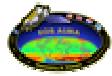


Modis Aqua, 21 August 2005 13:16 h, RGB from Channels 1,4,3
Image from the Dundee Satellite Receiving Station Archive

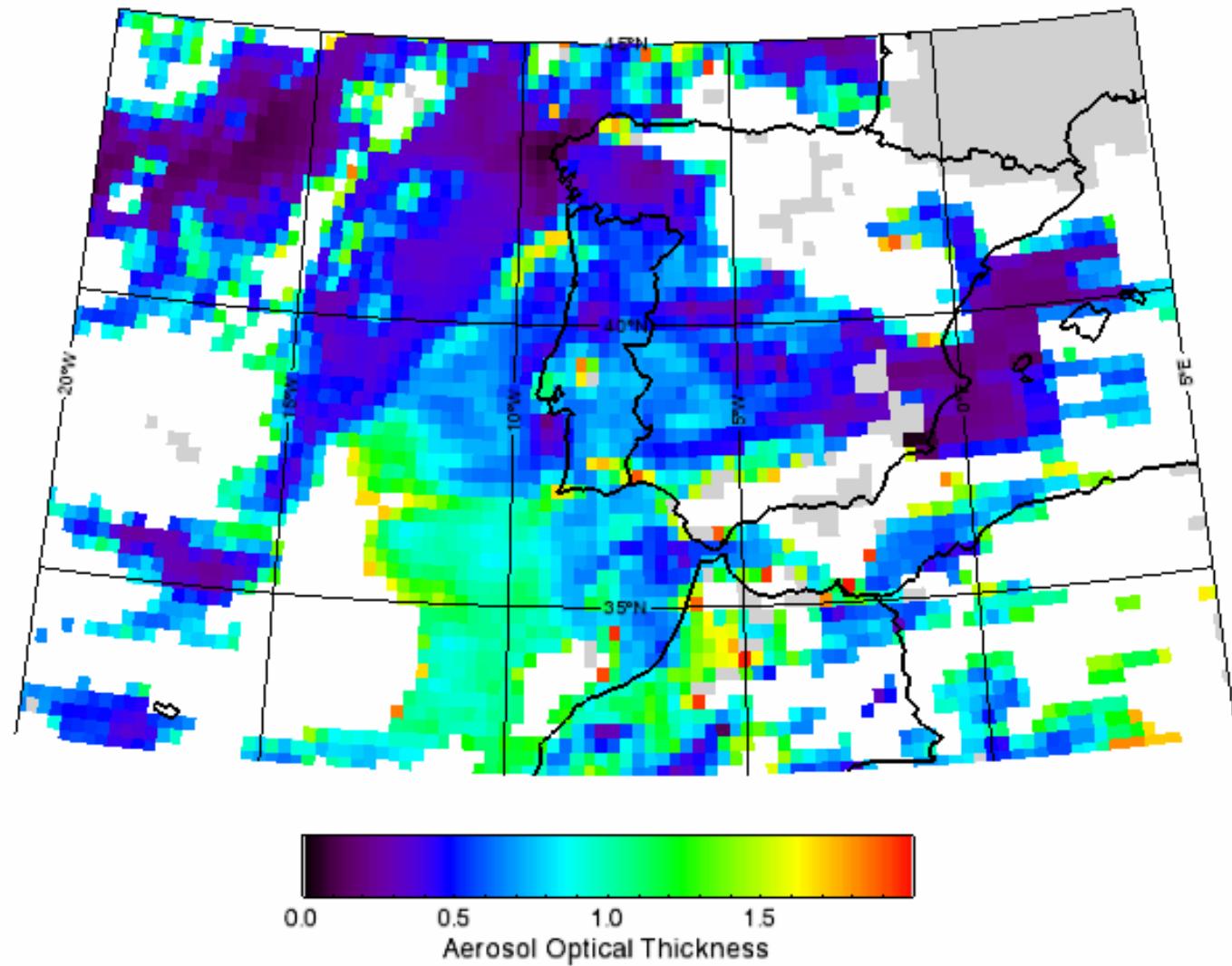


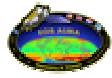
OMI NO₂; 21 August 2005



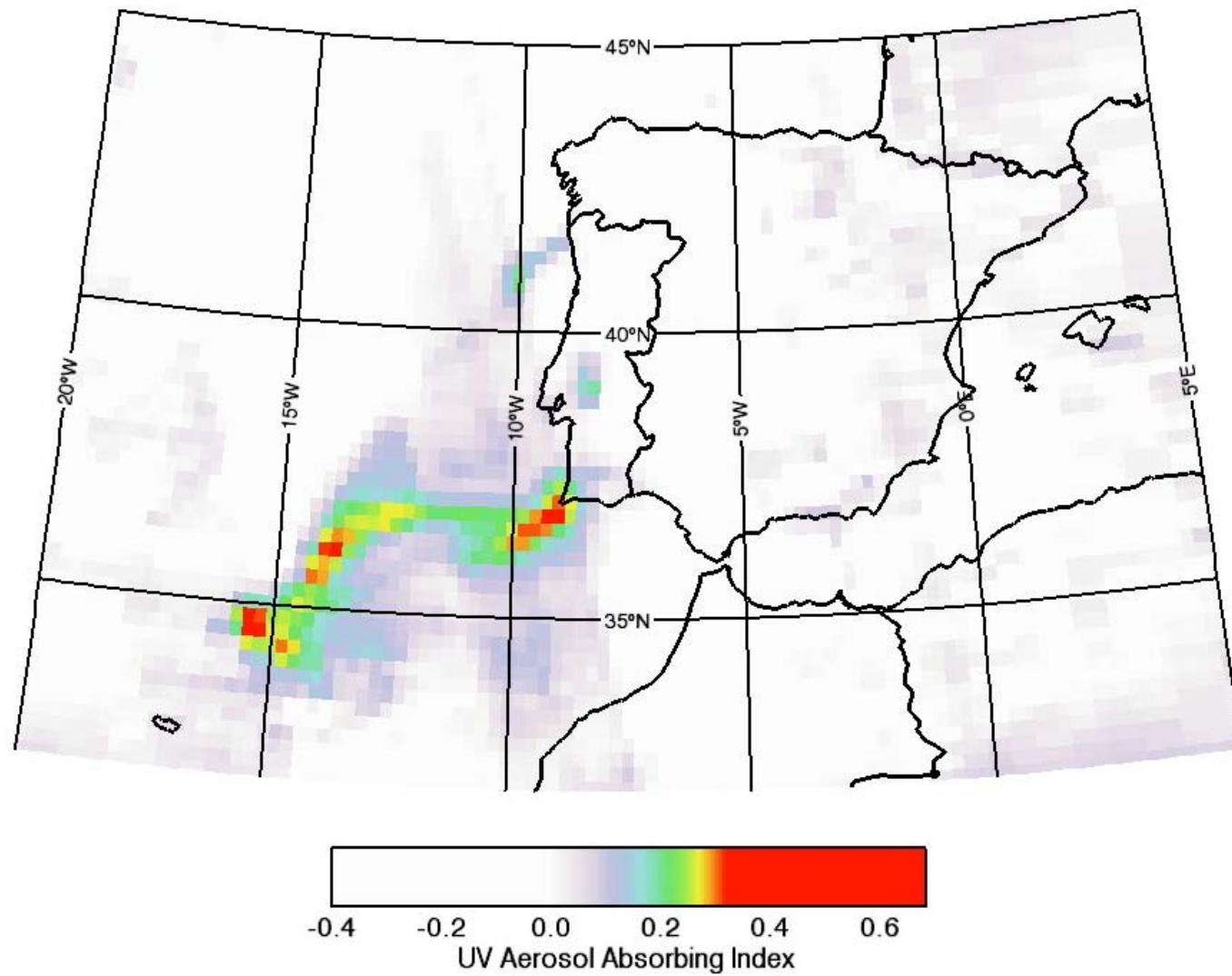


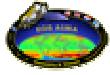
OMI Aerosol Optical Depth; 21-08-2005





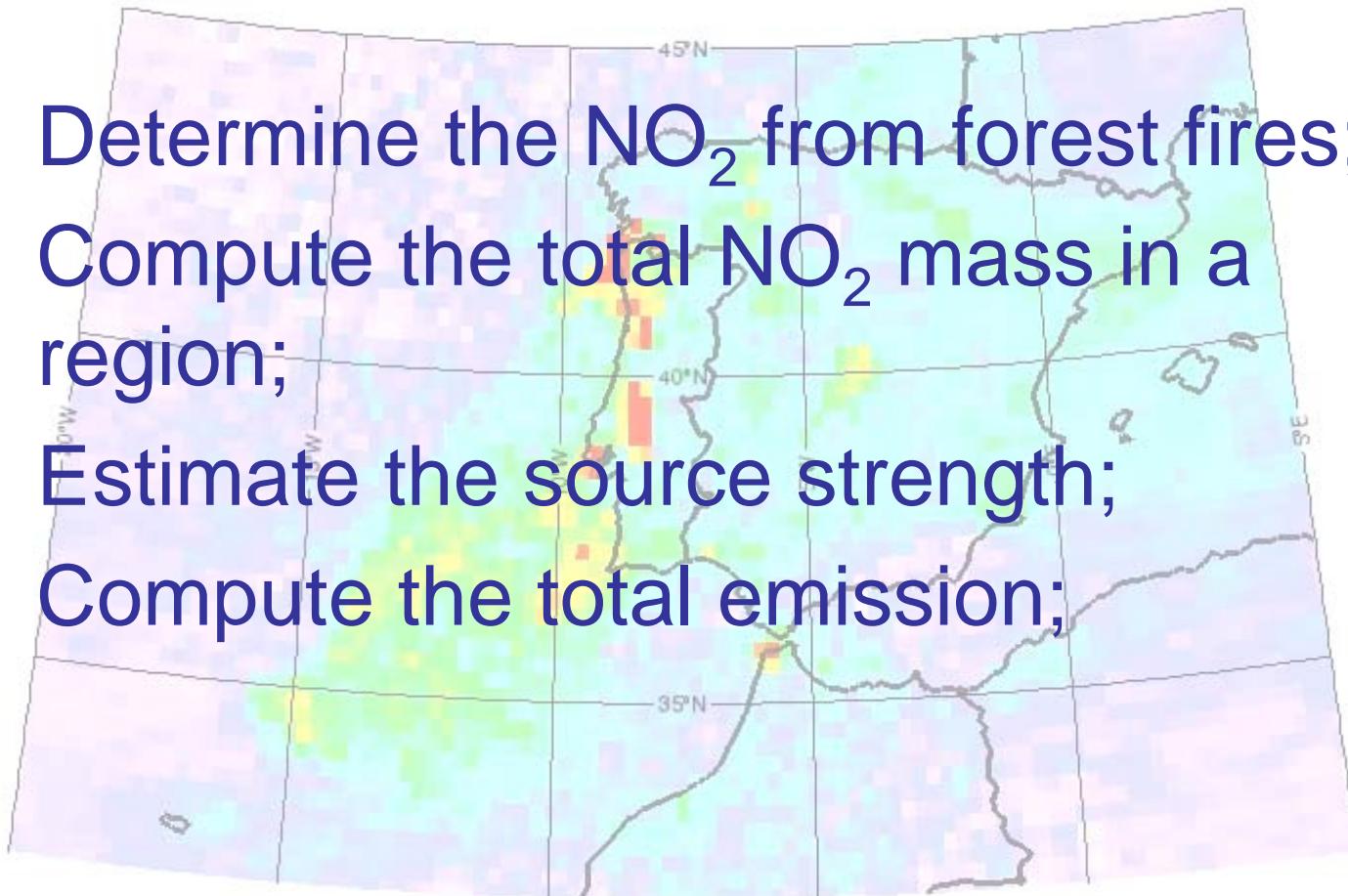
OMI Aerosol Absorbing Index; 21-08-2005





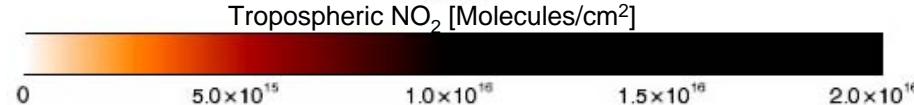
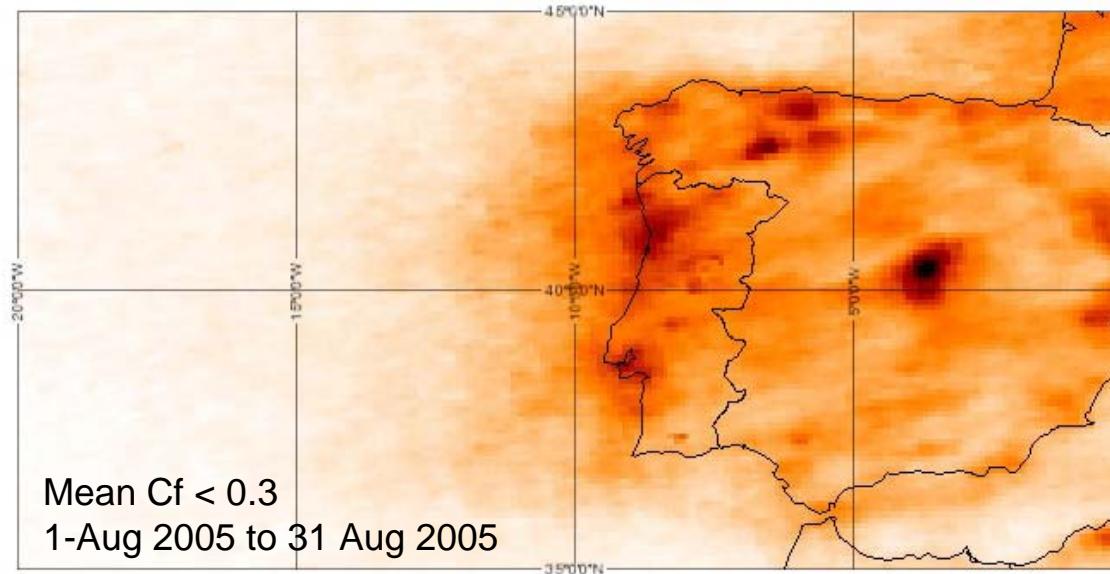
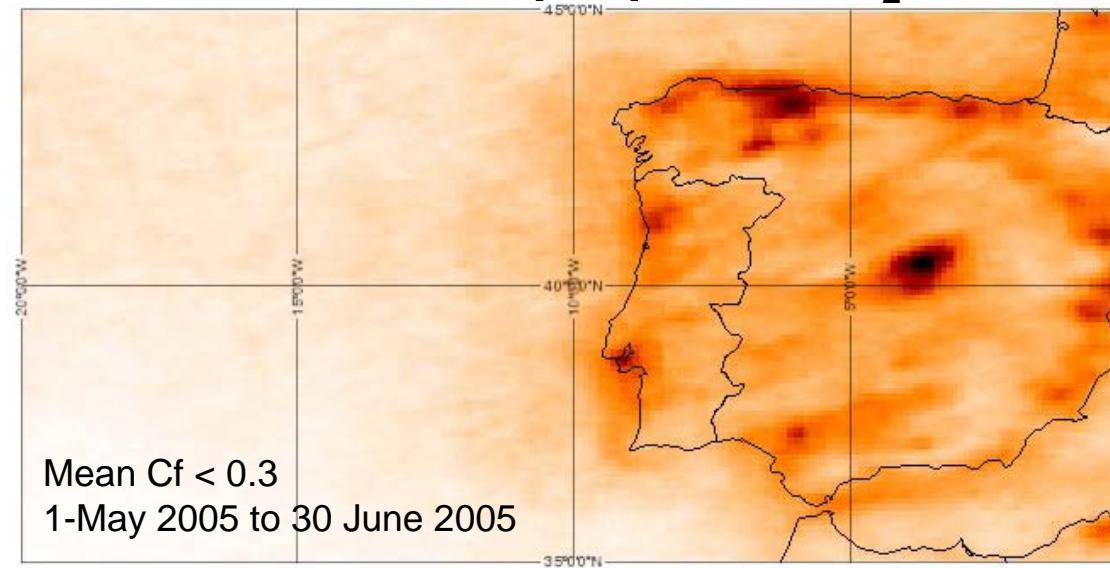
Estimating Emissions from OMI

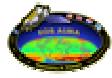
- Determine the NO_2 from forest fires;
- Compute the total NO_2 mass in a region;
- Estimate the source strength;
- Compute the total emission;



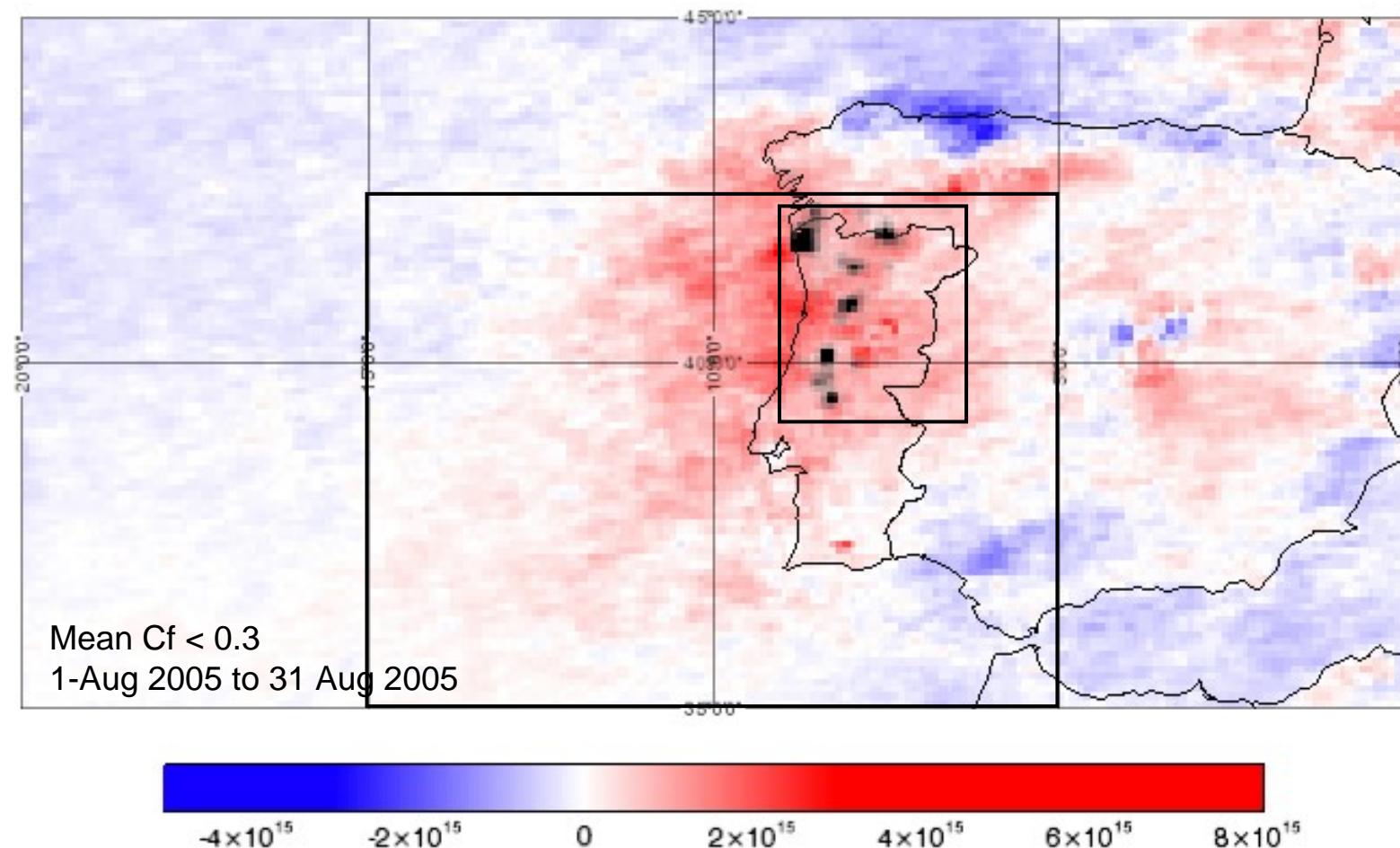


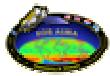
OMI Tropospheric NO₂



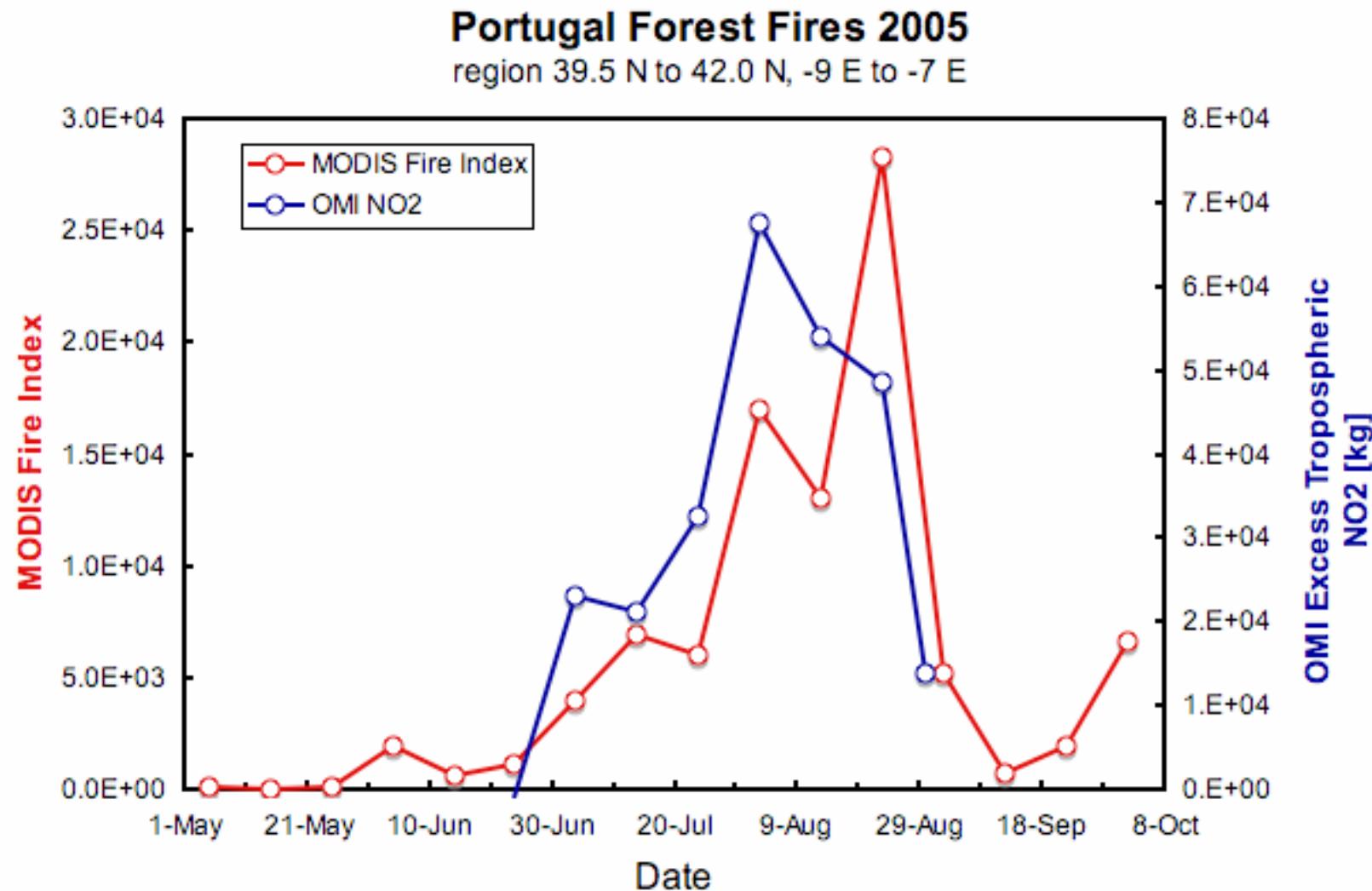


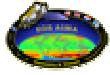
OMI Excess Tropospheric NO₂





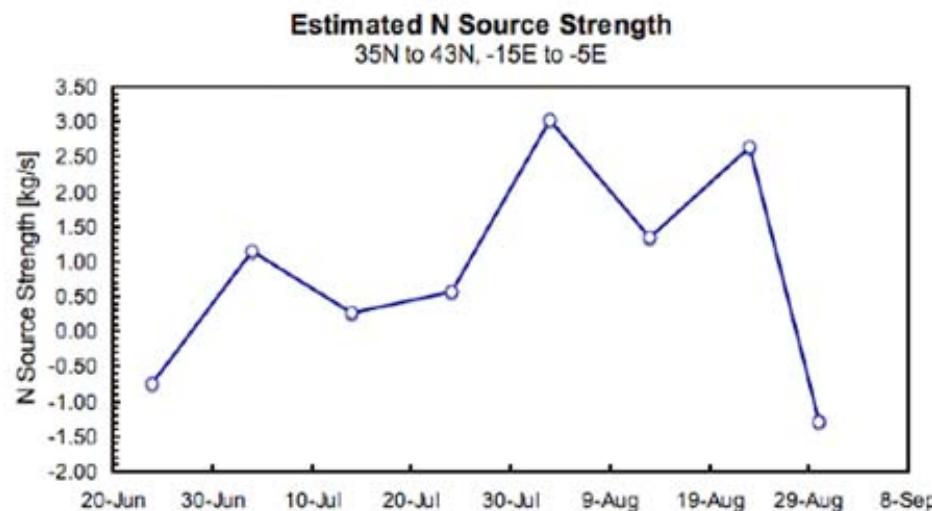
Comparison with MODIS Fire Counts

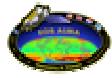




Estimated Source Strength

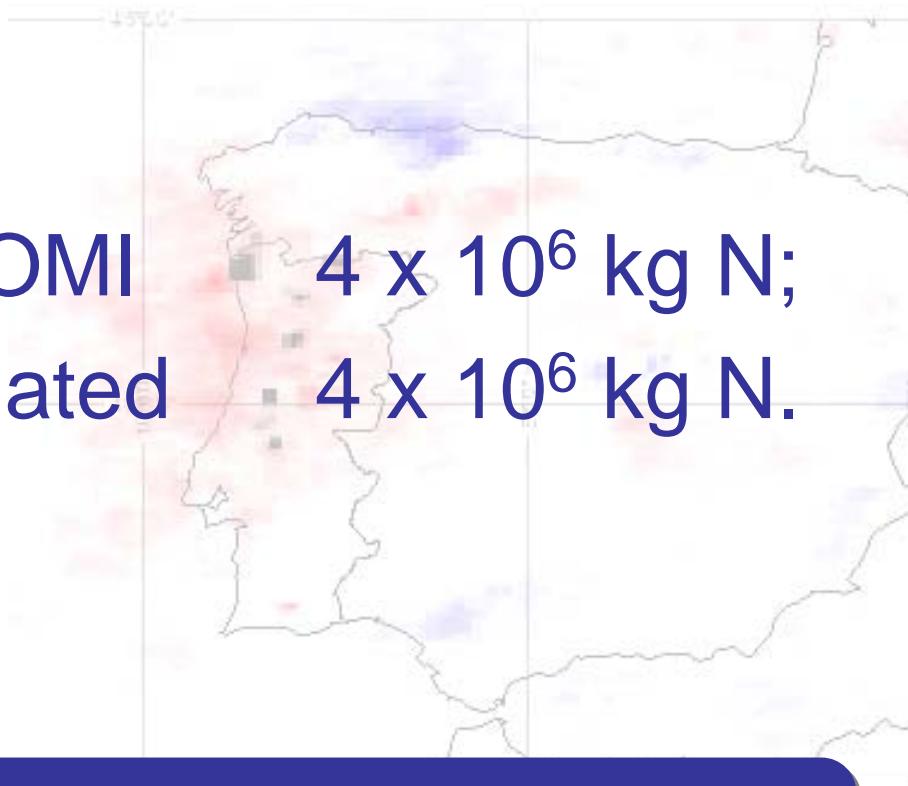
- Assumption all NO₂ is lost within the specified region;
- NO₂ life time is 8 hours;



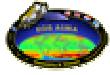


Total Emitted N over July and August 2005

- Estimated from OMI 4×10^6 kg N;
- Bottom up Estimated 4×10^6 kg N.



LARGE UNCERTAINTIES IN BOTH METHODS



Summary

- NO₂ DOAS products are available for validation
- Combining OMI data from aerosol and trace gases gives new information about the troposphere
- The OMI tropospheric NO₂ data can be used for quantitative source estimates